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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/581,415

06/02/2006

Ulrich Maier

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01/14/2011

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ALEXANDRIA, VA 22314

EXAMINER

BROWN, PHYLLIS M

ART UNIT

PAPER NUMBER

3753

MAIL DATE

DELIVERY MODE

01/14/2011

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/581,415

Applicant(s)

MAIER ET AL.

Examiner

MACADE BROWN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claims 10-29 are presently pending in this application. As directed by the amendment: claims 1-9 have been cancelled, claims 10-14, 16, 18, 19, 21-23, and 25-29 have been amended, and no new claims have been added.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the first and second conduit portions forming an angle  $> 90$  degrees (see claims 28 and 29) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

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of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 10-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art in view of Nakakita (WO 01/55567).**

A statement by an applicant in the specification identifying the work of another as "prior art" is an admission which can be relied upon for both anticipation and

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obviousness determinations, regardless of whether the admitted prior art would otherwise qualify as prior art under the statutory categories of 35 U.S.C. 102. *Riverwood Int 'l Corp. v. R.A. Jones & Co.*, 324 F.3d 1346, 1354, 66 USPQ2d 1331, 1337 (Fed. Cir. 2003); *Constant v. Advanced Micro-Devices Inc.*, 848 F.2d 1560, 1570, 7 USPQ2d 1057, 1063 (Fed. Cir. 1988). See MPEP 2129.

Regarding claims 10-15 and 23-29, applicant's admitted prior art teaches an inlet valve assembly including a valve element disposed in a valve chamber of the high-pressure fuel pump and a fluid conduit adjoining the valve chamber on the upstream side, the valve element alternatively opening and closing the fluid conduit on the upstream side of the valve chamber; a ball as the valve element (paras. 1 and 2).

Applicant's admitted prior art fails to disclose the fluid conduit having a substantially constant width and is embodied such that a swirl-type rotation about the longitudinal axis of the fluid conduit is impressed on the fluid stream that flows toward the valve chamber, without a constriction of this fluid stream being produced by the conduit in the production of the swirl-type rotation of the fluid, so that the swirl-type rotation of the fluid results in improved efficiency of the vane assembly and less wear of the valve element; the fluid conduit comprises a first conduit portion and a second conduit portion adjoining the first conduit portion, the longitudinal axes of the first and second conduit portion being at an angle <180 degrees to one another, and the longitudinal axis of the first conduit portion being laterally offset from the longitudinal axis of the second conduit portion; the longitudinal axes of the first and second conduit portions being at least approximately at a right angle to one another; the first and

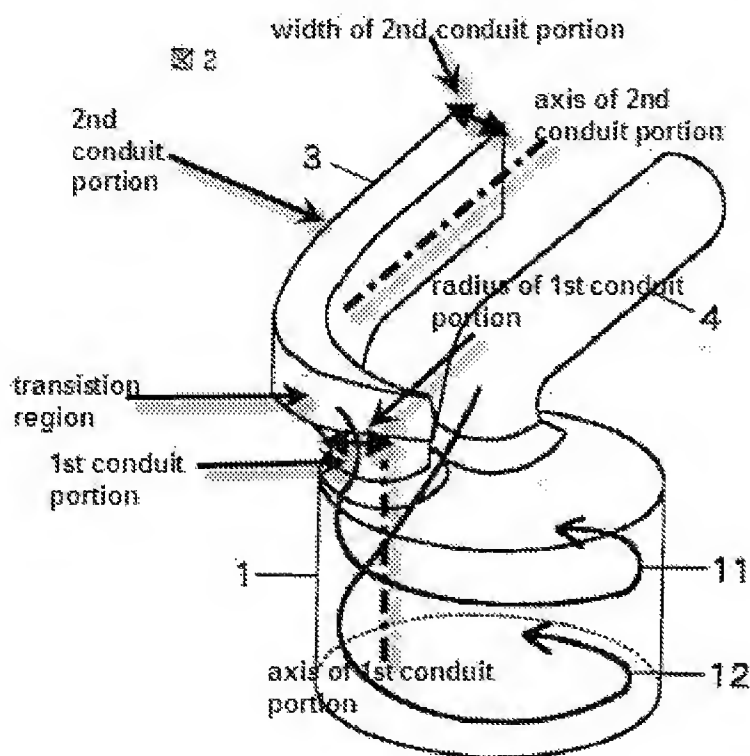
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second conduit portions, in cross section, have at least approximately the same radius; further including a transition region between the first conduit portion and the second conduit portion; the transition region including a wall that is curved from the first conduit portion to the second conduit portion; the first conduit portion and second conduit portion form an angle  $> 90$  degree.

Nakakita teaches a fluid conduit 3 (fig. 2) with a substantially constant width and embodied such that a swirl-type rotation about the longitudinal axis of the fluid conduit is impressed on the fluid stream that flows toward the chamber 1, without a constriction of this fluid stream being produced by the conduit in the production of the swirl-type rotation of the fluid, (note: it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed, i.e. "so that the swirl-type rotation of the fluid results in improved efficiency," does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations); the fluid conduit 3 includes a first conduit portion and a second conduit portion adjoining the first conduit portion (see fig. 2 below), the longitudinal axes of the first and second conduit portion being at an angle  $< 180$  degrees to one another, and the longitudinal axis of the first conduit portion being laterally offset from the longitudinal axis of the second conduit portion; the longitudinal axes of the first and second conduit portions being at least approximately at a right angle to one another (see fig. 2 below); the first and second conduit portions, in cross section, have at least approximately the same radius (the width of the second conduit portion is approximately equal to the radius of the first conduit portion); further including a transition region (see fig. 2 below); further including

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a transition region (see fig. 2 below) between the first conduit portion and the second conduit portion; the first conduit portion extends no more than a very small distance past the second conduit portion; the transition region including a wall that is curved from the first conduit portion to the second conduit portion; the first conduit portion and second conduit portion form an angle  $> 90$  degree, to produce a swirl flow of the gas.



It would have been obvious to one of ordinary skill in the art, at the time of invention, to employ in applicant's admitted prior art a fluid conduit embodied such that a swirl-type rotation about the longitudinal axis of the fluid conduit is impressed on the fluid stream that flows toward the valve chamber, without a constriction of this fluid stream being produced by the conduit in the production of the swirl-type rotation of the fluid; the fluid conduit includes a first conduit portion and a second conduit portion

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adjoining the first conduit portion, the longitudinal axes of the first and second conduit portion being at an angle  $< 180$  degrees to one another, and the longitudinal axis of the first conduit portion being laterally offset from the longitudinal axis of the second conduit portion; the longitudinal axes of the first and second conduit portions being at least approximately at a right angle to one another; the first and second conduit portions, in cross section, have at least approximately the same radius; further including a transition region between the first conduit portion and the second conduit portion; the first conduit portion extends no more than a very small distance past the second conduit portion; the first conduit portion and second conduit portion form an angle  $> 90$  degrees, as taught by Nakakita, for the purpose of to producing a swirl flow of the fluid, which would result in minimizing turbulent flow of the fluid.



Regarding claims 16-18, applicant provides support for the first and second conduit portions having approximately the same radius (simplifies the manufacture of the valve assembly of the invention and thus reduces the production costs; para. 12), but fails to provide a basis for the lateral offset of the longitudinal axes being greater than the radius. Thus, it would have been an obvious matter of design choice to modify the Nakakita' s reference, to have the lateral offset of the longitudinal axes being greater than the radius, since applicant has not disclosed that having the lateral offset of the longitudinal axes being greater than the radius solves any stated problem or is for any particular purpose, and it appears that the device would perform equally well with either designs.

Regarding claims 19-22, the patentability of a product does not depend on its method of production, i.e. electrochemical removal. If the product in the product-by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.

**Alternatively, claims 10-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant admitted prior art in view of Harman (WO 03/056228).**

A statement by an applicant in the specification identifying the work of another as "prior art" is an admission which can be relied upon for both anticipation and obviousness determinations, regardless of whether the admitted prior art would otherwise qualify as prior art under the statutory categories of 35 U.S.C. 102. *Riverwood Int 'l Corp. v. R.A. Jones & Co.*, 324 F.3d 1346, 1354, 66 USPQ2d 1331, 1337 (Fed.

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Cir. 2003); Constant v. Advanced Micro-Devices Inc., 848 F.2d1560, 1570, 7 USPQ2d 1057, 1063 (Fed. Cir. 1988). See MPEP 2129.

Regarding claims 10-15 and 23-27, applicant's admitted prior art teaches an inlet valve assembly including a valve element disposed in a valve chamber of the high-pressure fuel pump and a fluid conduit adjoining the valve chamber on the upstream side, the valve element alternatively opening and closing the fluid conduit on the upstream side of the valve chamber; a ball as the valve element (paras. 1 and 2).

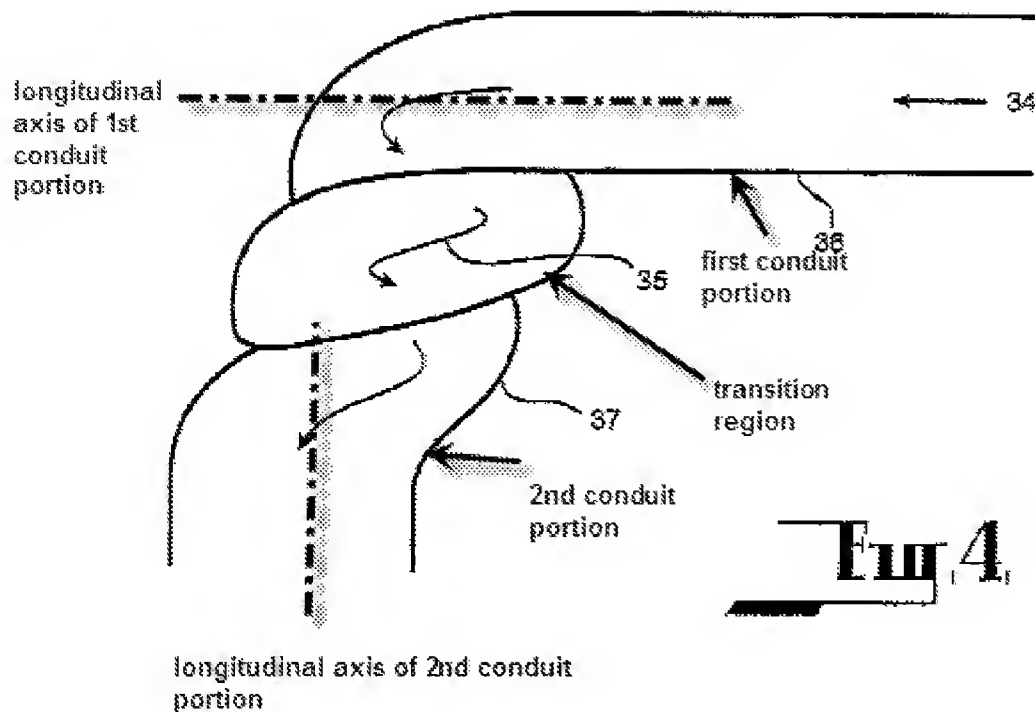
Applicant's admitted prior art fails to teach the fluid conduit having a substantially constant width and embodied such that a swirl-type rotation about the longitudinal axis of the fluid conduit is impressed on the fluid stream that flows toward the valve chamber, without a constriction of this fluid stream being produced by the conduit in the production of the swirl-type rotation of the fluid, so that the swirl-type rotation of the fluid results in improved efficiency of the vane assembly and less wear of the valve element; the fluid conduit comprises a first conduit portion and a second conduit portion adjoining the first conduit portion, the longitudinal axes of the first and second conduit portion being at an angle  $<180$  degrees to one another, and the longitudinal axis of the first conduit portion being laterally offset from the longitudinal axis of the second conduit portion; the longitudinal axes of the first and second conduit portions being at least approximately at a right angle to one another; the first and second conduit portions, in cross section, have at least approximately the same radius; the transition region including a wall that is curved from the first conduit portion to the second conduit portion; further including a transition region between the first conduit portion and the

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second conduit portion; the first conduit portion extends no more than a very small distance past the second conduit portion, reducing the degree of extraneous turbulence.

Harman teaches a fluid conduit 36 (fig. 4) having a substantially constant width and embodied such that a swirl-type rotation about the longitudinal axis of the fluid conduit is impressed on the fluid stream that flows out, without a constriction of this fluid stream being produced by the conduit in the production of the swirl-type rotation of the fluid, (note: it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed, i.e. "so that the swirl-type rotation of the fluid results in improved efficiency," does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations); the fluid conduit 36 comprises a first conduit portion and a second conduit portion adjoining the first conduit portion (see fig. 4 below), the longitudinal axes of the first and second conduit portion being at an angle  $<180$  degrees to one another, and the longitudinal axis of the first conduit portion being laterally offset from the longitudinal axis of the second conduit portion; the longitudinal axes of the first and second conduit portions being at least approximately at a right angle to one another (see fig. 4 below); the first and second conduit portions, in cross section, have at least approximately the same radius; further including a transition region between the first conduit portion and the second conduit portion (see fig. 4 below); the transition region including a wall that is curved from the first conduit portion to the second conduit portion; the first conduit portion extends no more than a very small distance past the second conduit portion, to reduce the degree of extraneous turbulence (pg. 1, lines 22-23).

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It would have been obvious to one of ordinary skill in the art, at the time of invention, to employ in applicant's admitted prior art a fluid conduit with a substantially constant width and embodied such that a swirl-type rotation about the longitudinal axis of the fluid conduit is impressed on the fluid stream that flows toward the valve chamber, without a constriction of this fluid stream being produced by the conduit in the production of the swirl-type rotation of the fluid; the fluid conduit includes a first conduit portion and a second conduit portion adjoining the first conduit portion, the longitudinal axes of the first and second conduit portion being at an angle  $<180$  degrees to one another, and the longitudinal axis of the first conduit portion being laterally offset from the longitudinal axis of the second conduit portion; the longitudinal axes of the first and second conduit portions being at least approximately at a right angle to one another; the first and second conduit portions, in cross section, have at least approximately the same

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radius; further including a transition region; the transition region including a wall that is curved from the first conduit portion to the second conduit portion; the first conduit portion extends no more than a very small distance past the second conduit portion, as taught by Harman, for the purpose of reducing turbulence.

Regarding claims 16-18, applicant provides support for the first and second conduit portions having approximately the same radius (simplifies the manufacture of the valve assembly of the invention and thus reduces the production costs; para. 12, but fails to provide a basis for the lateral offset of the longitudinal axes being greater than the radius. Thus it would have been an obvious matter of design choice to modify the Harman's' s reference, to have the lateral offset of the longitudinal axes being greater than the radius, since applicant has not disclosed that having the lateral offset of the longitudinal axes being greater than the radius solves any stated problem or is for any particular purpose, and it appears that the device would perform equally well with either designs.

Regarding claims 19-22, the patentability of a product does not depend on its method of production, i.e. electrochemical removal. If the product in the product-by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.

### ***Response to Arguments***

Applicant's arguments, see Interview Summary, dated 8 October 2010, with respect to claims 10-29 have been fully considered and are persuasive. The rejection of claims 10-29 has been withdrawn.

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However, upon further consideration, a new ground(s) of rejection is made in view of applicant's admitted prior art and Nakakita and alternatively, in view of applicant's admitted prior art and Harman. Applicant's admitted prior art teaches a valve element including a ball valve arranged in a high-pressure fuel pump. Nakakita teaches first and second conduit portions which create a swirl-type rotation of the fluid (see fig. 4). Harman teaches first and second conduit portions which create a swirl-type rotation of the fluid as shown in fig. 2.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MACADE BROWN whose telephone number is (571)270-5428. The examiner can normally be reached on 10-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hepperle can be reached on 571-272-4913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MACADE BROWN/  
Examiner, Art Unit 3753

/STEPHEN M HEPERLE/  
Supervisory Patent Examiner, Art  
Unit 3753